DATAMINE

STUDIO OP

Release Notes

Studio OP 4.1

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The product described in this documentation may be connected to, and/or communicate information and data via, a network interface, which should be connected to a secure network. It is your sole responsibility to ensure a secure connection to the network and to establish and maintain appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, etc.) to protect the product, the network, your systems, and the interface against any kind of security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data. We are not liable for damages or losses related to any such security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data.

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Overview

Studio OP contains functionality for both medium- and short-term planning of open pit mines.

Studio OP has tools for the design of pits and generation of mining surfaces, and allows you to generate mining blocks from pit and phase shapes.

Studio OP is one of several products in the Studio product family, which includes:

- **Studio EM** for exploration data analysis and modeling.
- **Studio Geo** is for geological and structural modeling.
- **Studio Mapper** for geological face mapping and reporting.
- **Studio NPVS+** for strategic open pit optimization, design and enhanced scheduling.
- **Studio OP** for open pit design and operational scheduling.
- **Studio RM** for mine geology, reserve modeling and resource estimation.
- **Studio Survey** for open pit and underground mine surveying and reporting.
- **Studio UG** for underground mine design and scheduling.

> **Note**: Studio OP release notes are cumulative for each major version, in reverse chronological order.

Further Information

Release notes for other versions of Studio OP are available via the Datamine Customer Support website. For more details, see https://www.dataminesoftware.com/support/.

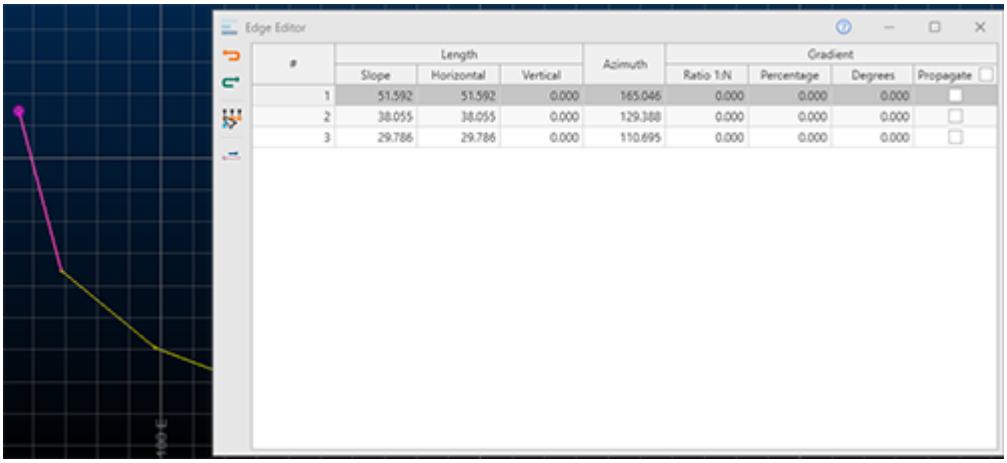
For the complete Studio OP documentation, see https://docs.dataminesoftware.com/StudioOP.

Studio OP 4.1 Release Notes

> **Note**: Datamine Task Scheduler 4.1 or later is required to calculate operational schedule activities.

Key Improvements

Edge Editor



The **Edge Editor** tool, popularized by Studio UG, is now available in Studio OP.

Pick a string, then review its edge coordinate and orientation data, then edit accordingly and precisely. Data can be selected before or after the screen is opened. If string selection changes whilst the screen is displayed, its contents update automatically.

Strings can be edited on an edge-by-edge basis, or you can choose the point at which a transformation should start and then adjust all subsequent edges along the design string in the same way.

Rapidly adjust string segment properties and view changes immediately in the 3D window.

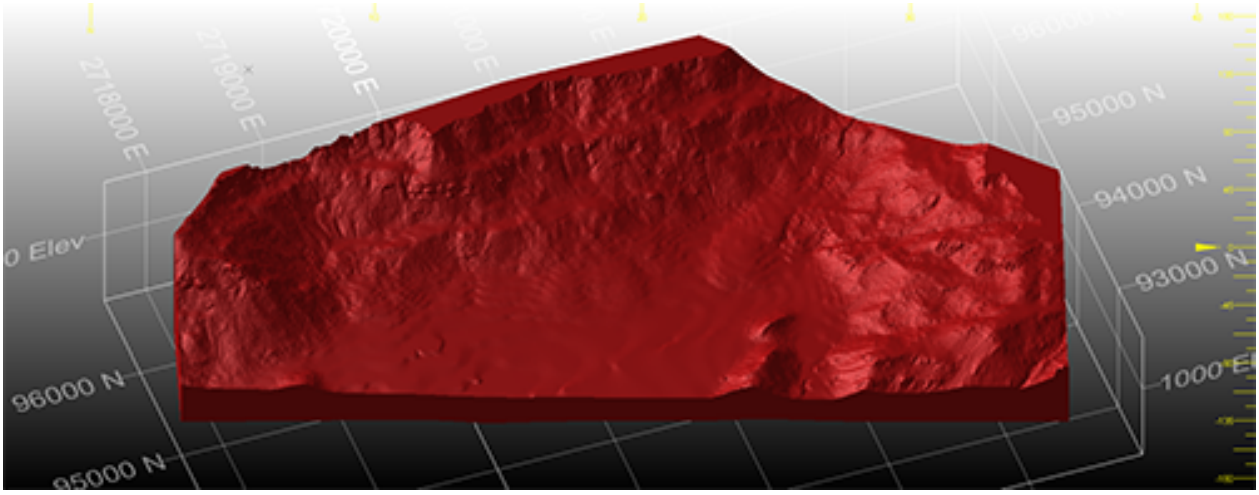
Project Data Bar

Your product has a new control bar: **Project Data**.

The **Project Data** bar provides quick and easy access to your project files. It will be developed more in future releases to gradually merge the separate functions of the **Project Files**, **Sheets** and **Loaded Data** control bars, resulting in a single source of local, categorized data and convenient file, object and overlay management for your product.

This control bar categorizes data and object in a more granular way than legacy control bars, identifying data types that are appropriate to a particular domain, such as rotated block models, prototype models, vein and contact wireframes and more.

Leapfrog Data Import



You can now import Leapfrog mesh (.msh) and Leapfrog Project Model (.lfm) files using a new Data Source Driver. Data is imported as wireframes.

If importing a Leapfrog Project Model file, you can choose to import all associated mesh data or a subset, and can choose the attribute to use to store the original mesh name, making downstream data management much easier.

The new formats are also supported by Studio's drag-and-drop facility, meaning you can drag one or more files into the 3D view and default load settings are used to create the relevant objects in memory and display them.

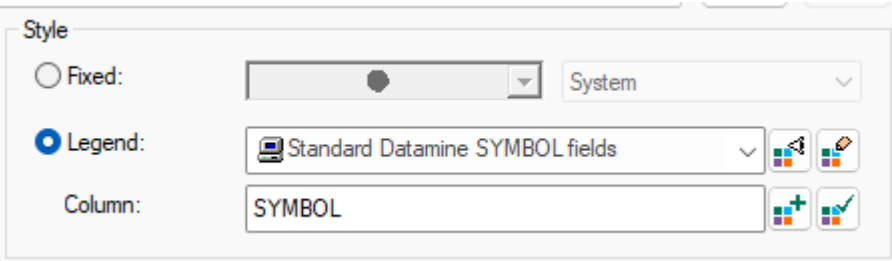
Geosoft® Driver

Geosoft Voxel Models files represent useful geophysical files, also known as *UBC voxel models*. These files contain geophysical inversion data. An import comprises 2 or more files - one file to define the geometry, and 1 or more files containing data

values associated with the cells.

To support this new file type a new *Geosoft* option is available on the **Data Import** screen.

Legend Tools Update



3D properties and similar screens now use a clearer and expanded toolset for legend management.

You can still display and edit legends as before, but now there is a dedicated button to create a new legend and (reinstating previous, reportedly popular behaviour) a new button appears to either select the current default legend for the selected column or set the current legend as the default for the current column (with no further prompts or popups).

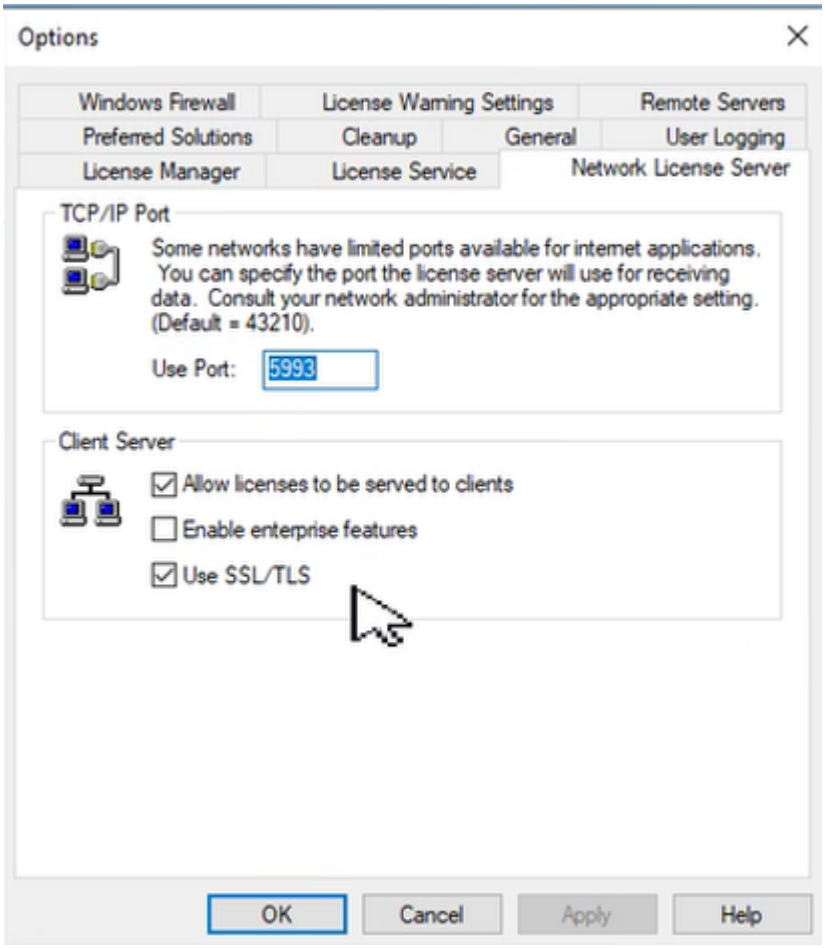
We've also added the ability to add any colour chip to the unique legend item table in the New Legend Wizard

License Services Security

At Datamine, we take the security and integrity of your data seriously.

License Services 7.0 is installed with your product update, and it provides additional security protection for client-server traffic.

You can now configure a license server to transmit and expect encrypted traffic. Utilizing the latest Transport Layer Security (TLS) protocol from Microsoft®, this level of data encryption helps prevent the interception and misuse of port traffic by malicious actors.

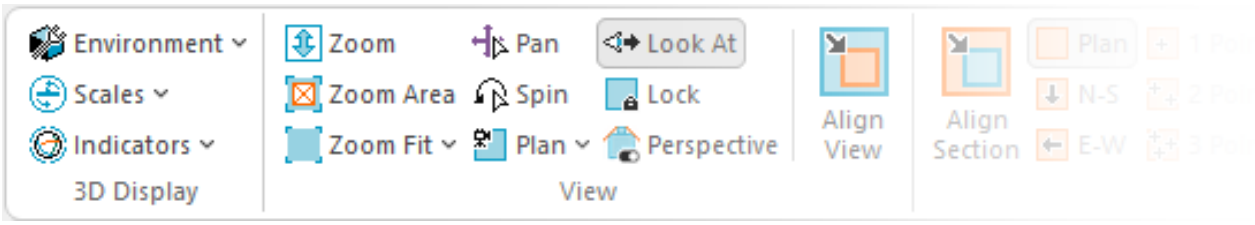


Server configuration can be completed in seconds (see above) and - providing connecting clients are running License Services 7.0 or above - client configuration is automatic; clients detect the current server mode and adjust their settings accordingly.

Legacy data mode is still supported; no server changes are necessary unless you want to change your data transmission protocol. Legacy License Services clients can connect to an upgraded (non-encrypted) server and vice versa.

You can find out more about these changes by searching for "License Services TLS Support" on the Datamine Support website, or by contacting your local Datamine office.

Ribbon Standardization



Following your requests to adopt a more consistent ribbon layout between Studio products for core (shared) commands, we've made a few changes for this update. This means your familiarity with one Studio is now useful if using another product in the Studio range. Where possible, we have standardized command grouping and positions for the **Data**, **Format** and **3D View** ribbons. We've maintained specific layouts where a particular operating domain demands it, such as grade estimation, resource modelling, pit design and field mapping functions, so these aren't changing.

We will continue to standardize our ribbons, where appropriate, in future releases.

Multiple File Loads

You can now import or load multiple files in one operation using new multi-file options. Just pick the files you want to load using a simple browser, and Studio does the rest. You still get to specify load and importation settings, including those specific to a particular driver, but now you can complete the process in a fraction of the time.

To access this function, click **Add to Project** or **External** on the **Data** ribbon and pick your files.

Either import multiple files to the project or load them directly into memory. These files can be of the same type and format or different ones, meaning you can pick a batch of files of various formats (CAD, BMF, DMX and more) and either add them to the project or load and display them after importation and conversion. This makes light work of importing files from other projects and applications.

To use the previous driver selection method, use a menu option to pick a data type or select the new "by driver" option for project import.

Other Command & Process Updates

- `COPYMOD` now supports retrieval criteria.
- A new command `digitise-doughnut` lets you create data representing fully enclosed internal structures.
- `smooth-gradient` can now be used to fully smooth (start to end) preselected strings.
- `REBLOCK` now supports retrieval criteria
- `INTEXT` can now process data using either a data definition (INDD) file or a SETTINGS file, or neither.
- `WIREFILL` now supports retrieval criteria.

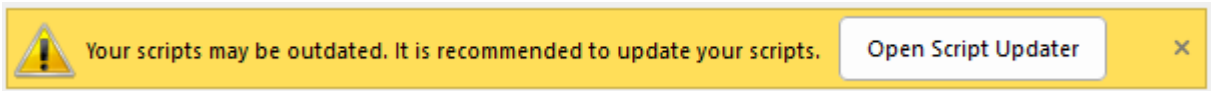
Safer Scripting

To maintain the highest level of local data security, we've rigorized our scripting interface in Studio products to provide a way to securely instantiate approved ActiveX objects through automation scripts. This provides a safer and more marshalled automation environment.

In brief, we've introduced a new Studio application method (CreateObject) that can be used in place of the deprecated `new ActiveXObject("Prog.ID");` instruction. A call to something like `window.external.System.CreateObject ("Prog.ID");` allows approved ActiveX objects to be instantiated to support your scripts. Most importantly, the ones that provide the highest risk are blocked.

The **Datamine Studio Script Updater**, accessible via your **Home** ribbon, can update your scripts either individually or as a batch, automatically making them safer to use.

If you load a script that looks like it could benefit from additional protection, a banner appears atop your display area. This also provides access to the conversion utility:



Early Access Features

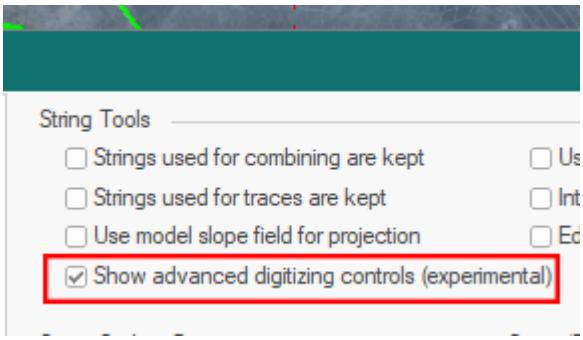
Advanced Digitizing Controls

As part of a wider campaign to improve and extend our digitizing tools, we've introduced a new way of creating new string data in this update, and we'd love to know what you think before we finalize things.

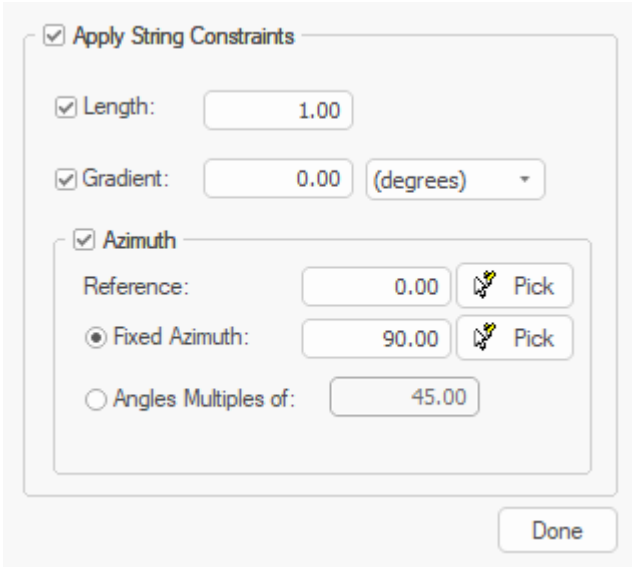
`new-string`, arguably the most commonly used design command in any Studio product, has been extended over the years and also supported by a range of other design functions to enhance more 'managed' digitizing often required in the mine planning domain, where design drafting with precise string properties can be critical to an effective design and schedule. The `extend-string` command has been similarly enhanced.

`new-string` and `extend-string` can run in an enhanced mode in this update. By default, both commands behave as before, but there's a new project setting that allows advanced settings to be applied during digitizing to constrain the orientation

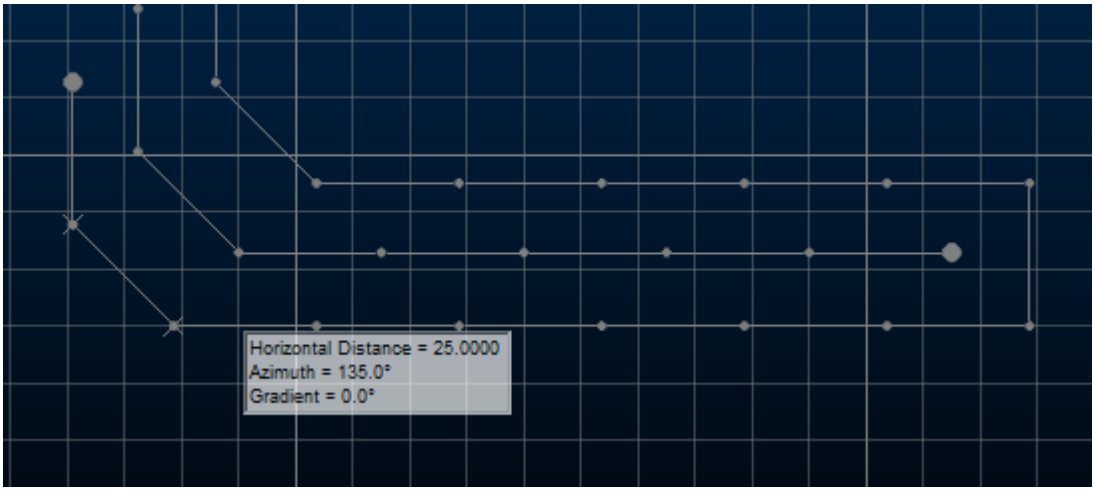
of the next string segment you create. Located on the **Points and Strings** screen, check **Show advanced digitizing controls** to activate enhanced mode for **new-string** and **extend-string**:



The next use of either command displays a popup allowing you to constrain the length, azimuth and gradient of the next string edge. For constrained angle changes, you can also ensure azimuth changes are made in fixed amounts from the previous string segment:



This can help to ensure operational and design constraints are honoured during digitizing, saving time later by editing and adjusting design data. Help files for both commands have been updated to explain how to use the new controls. You can also press F1 when the new popup displays during digitizing.



Please let us know what you think of this early-access feature. We value your feedback!

All Improvements

Commands & Processes

- **OP-3907** The **Data**, **Format** and **3D View** ribbons for Studio OP now match other Studio products.
- **OP-3839** **Reserves** control bars can now be toggled via the **Schedule** ribbon, and the bench/lift sections toolbars can be toggled using the **Design** and **Reserves** toolbars. **Home** ribbon access has been removed for these items.
- **OP-3809** The performance of surface road generation has been improved.
- **OP-3796** The **Create Data Set** task now uses visual themes with better support for resizing.
- **OP-3752** The **Model Attributes** task now uses visual themes with better support for resizing.
- **OP-3727** To pave the way for UI improvements in the future, the Pit Data control bar has been removed from this product.
- **OP-3601** The **Grid Mining Blocks** task now uses visual themes with better support for resizing.
- **CORE-9827** .dmx.tmp files are now ignored by the **Project Files** and **Project Data** control bars.
- **CORE-9775** As part of the project to standardize some of the Studio ribbons, icon updates have been made.
- **CORE-9732** Read-only DM files are now converted to read-only DMX files during project or utility-initiated conversion.
- **CORE-9711** Documentation for `EXTRA`'s RAND and RANDBETWEEN numeric functions has been improved.
- **CORE-9649** Block model fields in the Text Importer are now ordered more sensibly.
- **CORE-9604** The default field of view angle for new projects is now 45 degrees (set-view-fov command).
- **CORE-9586** To increase system security, we have blocked the display of online content in the Customization window.
- **CORE-9583** In Files, Fields and Parameters screens running in Dark mode, text in dropdowns is now more readable.
- **CORE-9579** `COMPDH` now supports up to 5 ZONE fields to composite within, and five optional fields DOM1 to DOM5 can now be specified to record dominant categorical values (by length) within each composited sample.

- **CORE-9578** The Script Recorder now generates syntax that aligns with Datamine's safer scripting practices.
- **CORE-9574**The legacy script converter utility has been removed from product distributions.
- **CORE-9561** Rationalization of baggage files for help systems means Studio installation file sizes are now smaller.
- **CORE-9551** The **Datamine Studio Script Updater** has been provided to automatically convert your scripts to more protected versions.
- **CORE-9550** The Studio scripting environment now offers a safer scripting syntax, minimizing the potential impact of malicious thread actors.
- **CORE-9546** New calculated (virtual) fields are now available to calculate the dip angle (**_PDIP**) and direction (**_PDIPDIR**) of the best fit plane through a data object.
- **CORE-9542** A more secure mechanism for data object automation has been implemented. Consult your online help for more details.
- **CORE-9540** You can delete selected 3D overlays of the Project Data using the <DELETE> key.
- **CORE-9539** The **CalculateEdgeMetrics**() method now calculates values for the final edge of a closed perimeter.
- **CORE-9528** The Plots window **Section** and **View** ribbons now have new icons.
- **CORE-9526** It is now quicker to read and process DMX files containing alphanumeric columns.
- **CORE-9522** `WIREFILL` now supports retrieval criteria.
- **CORE-9521** `COPYMOD` now supports retrieval criteria.
- **CORE-9519** `REBLOCK` now supports retrieval criteria.
- **CORE-9490** The Text Importer can now be automated using any Studio product.
- **CORE-9482** The `switch-drillhole-points-traces` command is now available on the Format ribbon (Display Mode group).
- **CORE-9474** The **Text Importer** and `INTEXT` documentation has been extended and corrected.
- **CORE-9473** `INTEXT` can now process data using either a data definition (INDD) file or a SETTINGS file, or neither.
- **CORE-9449** The **CENTRE** file for the `ELLIPSE` process is no longer dependent on search, variogram or zone parameter file inputs.

- **CORE-9409** An issue causing an unsorted block model to become locked after a previous attempt to load it has been resolved.
- **CORE-9398** In `COMPDH` it has always been the case that if the **LENGTH** field in the input sample file is not equal to **FROM** - **TO** the **LENGTH** field is set to **TO** - **FROM**. This behaviour remains, but a maximum of 10 messages are issued in a process run.
- **CORE-9383** The **3D View** ribbon layout is now consistent between Studio products.
- **CORE-9382** The **Format** ribbon layout is now consistent between Studio products.
- **CORE-9378** The **Data** ribbon layout is now consistent between Studio products.
- **CORE-9359** Your product now includes a new control bar: **Project Data**. This combines the power of previous bars to categorize and display files, loaded objects and plot data.
- **CORE-9391** When using the Text Importer, you can now import alphanumeric trace and absent values into a destination field that is numeric.
- **CORE-9340** Unload all overlays of a specific data type using a new **Sheets** and **Project Data** control bar menu option.
- **CORE-9301** Legend controls within various screens have been reverted to more popular legacy behaviour (with improvements) and restyled.
- **CORE-9277** Quick Filter drop down lists now inherit the current look and feel theme.
- **CORE-9252** Project data bar icons for the Plots and 3D folders have been updated.
- **CORE-9233** By request, flat-rendered wireframes are now less shiny.
- **CORE-9229** **Text Importer** scenario files (.dminsv) now appear in the Project Data control bar.
- **CORE-9228** If opening a Text Importer scenario, file detection has been improved and you can now browse for missing files.
- **CORE-9103** The **Project Data**, **Loaded Data** and **Holes** control bars now inherit visual themes.
- **CORE-9097** An issue that could make data picking difficult where data was precisely coincident with the section plane has been resolved.
- **CORE-9082** **Drillhole Importer** now recognizes "Hole_ID" as a BHID mapping type.

- **CORE-9014** All commands relating to the obsoleted **Visualizer** window have been removed from the application.
- **CORE-8999** Tooltips have been added to the **Group Lithology** and **Assign Lithology** tasks.
- **CORE-8980** When adding a new unique value legend item in the New Legend Wizard, you can now add any other colour to the current pallete.
- **CORE-8839** Documentation on snapping to a grid has been improved.
- **CORE-8805** File case names are now preserved in the default overlay when dragging and dropping files into the 3D window.
- **CORE-8763** 3D properties and similar screens now use a clearer and expanded toolset for legend management. See you help file for more details.
- **CORE-8699** An issue causing the `insert-by-segment-length` to fail when working with large data has been resolved.
- **CORE-8673** Issues causing unpredictable selection behaviour (or presentation of selected data) in the Plots window have been resolved.
- **CORE-8654** Selecting the outer boundary of a plot sheet now enables the **Manage** ribbon (not the **Home** ribbon as previously).
- **CORE-8625** **Drillhole importer** now recognizes more field names when automatically mapping to system fields.
- **CORE-8519** Studio Data, Report and 3D View ribbons have been made standard in all Studio products other than Studio Mapper.
- **CORE-8510** The **Project Data** control bar now displays files external to the project folder with the same vertical line indicator as the Project Files control bar.
- **CORE-8196** `MODSPLIT` can now output either **MODELOUT**, **FULLMOD** or both. Previously, both outputs were always generated.
- **CORE-8143** It is now quicker to close a project without saving it.
- **CORE-7746** A new command `digitise-doughnut` lets you create complex string data in relation to an external perimeter and one or more closed internal strings.
- **CORE-7506** The **Drillhole Planner** now inherits the current visual theme.
- **CORE-7272** The **Edge Editor** is now available in this product. Use it to dynamically adjust string edges.
- **CORE-6637** This update features early access to a preview of our advanced string digitizing controls. Constrain the azimuth, length and gradient of new string segments as you draw. Enable this beta functionality using the **Project Settings** screen.

- **CORE-5878** The Project Data bar now permits multiple item selection.
- **CORE-5550** `smooth-gradient` can now be used to fully smooth (start to end) preselected strings.
- **CORE-1878** You can now import or load multiple files in one operation using new multi-file options.
- **GEO-718** The layout of the **Drillhole Importer** screens has been improved.

Utilities & Supporting Services

- **CORE-9629** This update includes an upgrade to the mesh wireframing engine (2.0.2.54).
- **CORE-9577** Your product installs a major update to License Services (7.0). This introduces encrypted traffic options for enhanced data traffic security.
- **CORE-9536** The Start Page environment has been made more secure.
- **CORE-9481** Data Source Drivers now export virtual data columns.
- **CORE-9362** If using the DmFile SDK, reading and writing records is now twice as fast as before.
- **CORE-8826** You can now import MineScape prism models where data overlaps in Z.
- **CORE-8524** An encrypted traffic option is now available to License Services server administrators. Requires a compatible client installation (7.0 or higher).
- **CORE-8524** We have added a new driver! Import UBC voxel model data using the new **Geosoft** driver option.
- **CORE-8160** The MineScape Block Model Importer has been added to the Data Import screen as a new driver: "MineScape strata model".
- **CORE-6521** You can now import and load Leapfrog mesh and project model file data using a new Data Source Driver.
- **MSO-1558** Documentation for MSO version 5.0 has been completed for this version.
- **MSO-1581** Evaluation method descriptions on the **Report** screen have been updated for consistency and clarity.

Defect Fixes

- **CORE-9919** An issue causing system failure, if v1 or v2 commands were used in conjunction with plane alignment options, has been resolved.
- **CORE-9875** An issue preventing the initial display of colour chips on the Assign Lithology screen has been resolved.
- **CORE-9868** An issue causing Deswik import to fail has been resolved.
- **CORE-9855** An issue causing issues when snapping and zooming in conjunction with vertical 3D scene exaggeration has been resolved.
- **CORE-9826** An issue preventing the successful import of Deswik wireframe data has been resolved.
- **CORE-9761** Picking of data symbols rendered in 2D in screen space can now be selected as normal.
- **CORE-9745** An issue causing `REBLOCK` to delete the input block model, if additive fields are used, has been resolved.
- **CORE-9717** The Project Data Bar's "Create from Loaded Data" menu option now works as expected.
- **CORE-9716** Grids and Sections folders can no longer be removed from the Project Data bar.
- **CORE-9714** An issue causing the incorrect rendering of 3D drillhole cylinders has been resolved.
- **CORE-9710** Modeless dialogs are now reset as expected when a default profile is reinstated.
- **CORE-9700** When translating strings, points or wireframes, decimal values now persist correctly between dialog sessions.
- **CORE-9673** 3D overlay group projections in Plots now react immediately to Project Data or Sheets control bar changes.
- **CORE-9670** The `UNFOLD` wizard now has context-sensitive help.
- **CORE-9653** When importing DXF/DWG points data, the 'Include Hatches' option is no longer displayed.
- **CORE-9642** 3D window axis and scale indicators now hide and show immediately following window configuration changes.
- **CORE-9631** The `INTEXT` process no longer stalls indefinitely if settings are unexpected.
- **CORE-9622** An issue causing `SELWF` to run more slowly than expected has been resolved.

- **CORE-9618** An issue causing move-points to pick an incorrect target has been resolved.
- **CORE-9615** An issue preventing the import of a Vulcan block model has been resolved.
- **CORE-9613** An issue causing incorrect display of Information Mode output, if the 3D view was orthogonal to the active section, has been resolved.
- **CORE-9595** The Command Toolbar contents are now more easily visible in Dark mode.
- **CORE-9582** The Move String command is now available again on the ribbon.
- **CORE-9562** Crash reports are now registering successfully in Freshdesk.
- **CORE-9537** DMX files input to transform-coordinates now generates output files usable by Datamine Supervisor.
- **CORE-9518** You no longer see an empty message box when trying to save an object to an open DMX file.
- **CORE-9517** The Text Importer is now storing the Delimeter correctly if not a comma.
- **CORE-9509** The Text Importer now reads fixed width values correctly.
- **CORE-9503** "Ignore Clipping" instructions at the overlay level are now applied immediately.
- **CORE-9499** An issue preventing string editing in plan view with >1 exaggeration in Z has been resolved.
- **CORE-9419** The Point Cloud Reconstruction wizard now automatically generates a scenario on entering a new scenario name.
- **CORE-9403** An issue causing the incomplete display of model cells in intersection at some section orientations has been resolved.
- **CORE-9370** An issue causing unexpected data rounding in `TRIFIL` has been resolved.
- **CORE-9357** `WIREFILL` now correctly interprets default plane information, and a @PLANE parameter is added to allow behaviour override.
- **CORE-9353** An issue causing `SELWF` to fail when processing retrieval criteria has been resolved.
- **CORE-9348** The select-perimeter command no longer behaves inconsistently when called from a script.
- **CORE-9264** An issue causing incorrect IJK values to be generated via the Text Importer has been resolved.

- **CORE-9236** An issue causing the incorrect alignment of a georeferenced image has been resolved.
- **CORE-9231** An issue preventing the successful reinstatement of a UI profile has been resolved.
- **CORE-9100** When transforming coordinates, and converting EPSG 5533 to WGS 84 and exporting to Earth, Lat/Long columns are no longer inverted.
- **CORE-9012** When transforming geographic coordinates, you can now generate output files on a non-primary drive.
- **CORE-8952** The zoom command now accurately centers the screen if the scene is exaggerated.
- **CORE-8794** An issue causing clipped block model data to be rendered invisible, when the clipping section deviates from the major axes, has been resolved.
- **CORE-8696** An issue causing smooth-gradient (smg) to fail with a large string data file has been resolved.
- **CORE-8632** Importing Deswik wireframe data now imports all available attributes. Previously some were not imported.
- **CORE-8582** An issue causing unexpected view navigation in scenes with vertical (Z) exaggeration has been resolved.
- **CORE-8259** 3D window section clipping is now reapplied correctly when the section corridor width is changed.
- **CORE-8052** An issue causing **SAMPOUT** to be created incorrectly when writing alphanumeric fields has been resolved.
- **CORE-7929** 3D plot overlay labels now react to clipping settings as expected.
- **CORE-6800** Studio now supports the concept of a temporary session-only data attribute.
- **CORE-5413** **REBLOCK** no longer fails if there is a space in the file in the project folder.
- **CORE-5270** Unable to cancel (ESC Key) Set Section about a single point
- **CORE-5137** Adding a trailing space to a new project name no longer causes Studio to create 2 project folders.

Studio OP 4.0 Release Notes

Scheduler Compatibility

Studio OP 4.0 requires **Datamine Task Scheduler 4.0** to export and synchronize schedule data. The latest version of DTS is available from the Datamine Support Website and the Datamine Customer Portal.

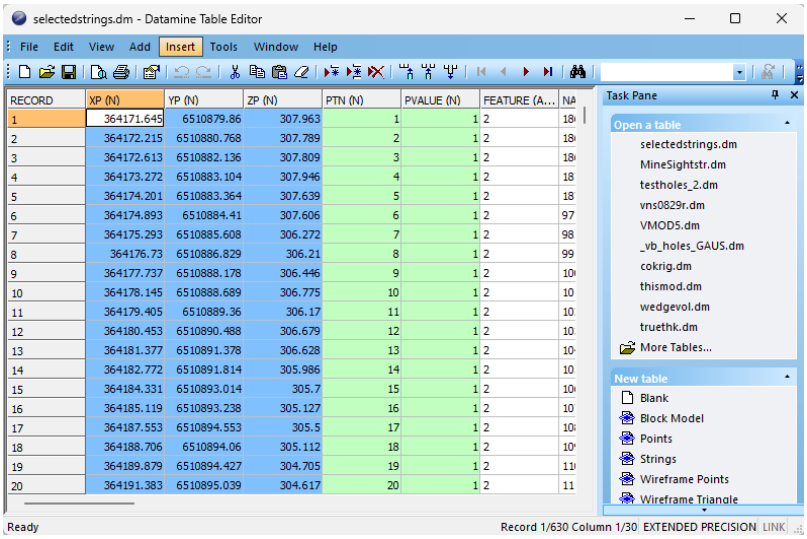
DTS is Datamine's platform for future scheduling functionality, replacing its predecessor, EPS. **DTS** represents the start of our ongoing campaign to provide best-in-field scheduling solution for mine planners.

DTS is available from the Datamine Support Website and the Datamine Customer Portal.

> **Note**: This version of your product cannot connect to the legacy Enhanced Production Scheduler (EPS) product.

Key Improvements

New Datamine File Format



The Datamine file format used natively by Studio products originated from Datamine's "Native File System" over thirty years ago. It has been maintained and supported by Datamine products since then. The mining industry has seen a significant increase in data volume and complexity during this time, which has started to strain the capabilities of the Datamine format.

Our response to this challenge is a new file format that is more suitable for the current and future data requirements of the mining industry. This format has a new file extension; .dmx.

Files are smaller and now supports up to 2048 columns. Your application generates .dmx files by default (this can be changed on the **System Options** screen. Both legacy (.dm) and new .dmx format files can be read. Other improvements will follow, as our new format is highly extensible and provides many opportunities to make data handling easier and smarter in the future.

The new format integrates smoothly with modern Studio products and your existing workflows and customization scripts, and the Table Editor can be used to view both legacy and new formats. For bulk file conversion, there's even a useful DM to DMX file conversion utility in the **Data Converter** installation folder should you wish to batch convert input files.

You can recognize .dm and .dmx files in the **Project Files** control bar:

	.dmx file	A file in the proprietary .dmx Datamine binary file format.
	.dm file	A file in the legacy .dm Datamine binary file format.

Datamine Task Scheduler

Studio OP integrates with **Datamine Task Scheduler** (DTS). In addition to the new name, **DTS** also features fixes made in response to feedback from the final version of EPS. Users of EPS will already be familiar with DTS.

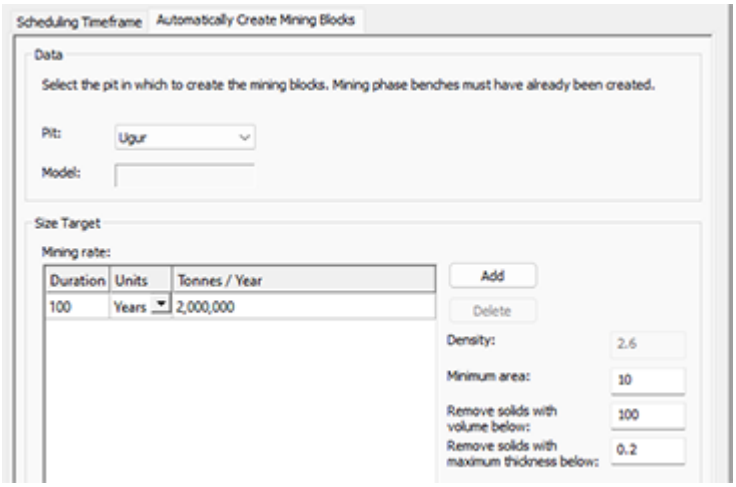
Continuing on from its predecessor, DTS starts at version "4.0" (the last EPS version was 3.1).

DTS is supported by an updated version of the previous Datamine data viewer, now called **DTS InTouch**.

> **Note**: DTS operates with a new license, available from your local Datamine office.

> **Note**: You cannot connect this or later versions of OP to the legacy EPS application, now discontinued.

Merged Auto Mining Block Task

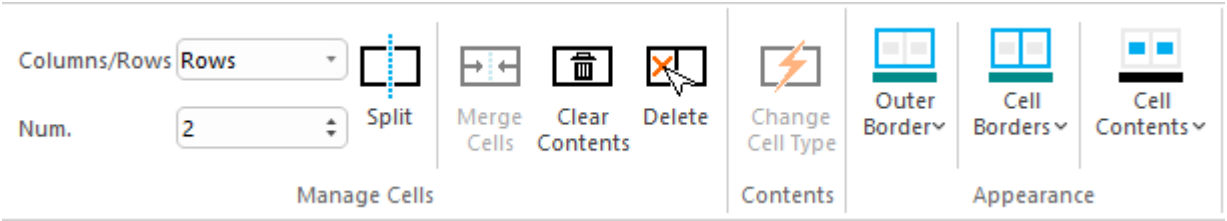


To make automated mining block generation quicker and easier, the **Timeframe** and **Auto Mining Blocks** tasks have been merged into a single multi-tab task, available on the Reserves ribbon.

Managed Task Framework Improvements

Many managed tasks of the Reserves Workflow have been migrated to a new, more capable, UI framework meaning they now show the expected visual themes, allow dynamic resizing and benefit from more efficient data management. Whilst minimal changes have been made to functionality, these changes allow tasks to be improved and extended more easily in the future.

Plots Overhaul



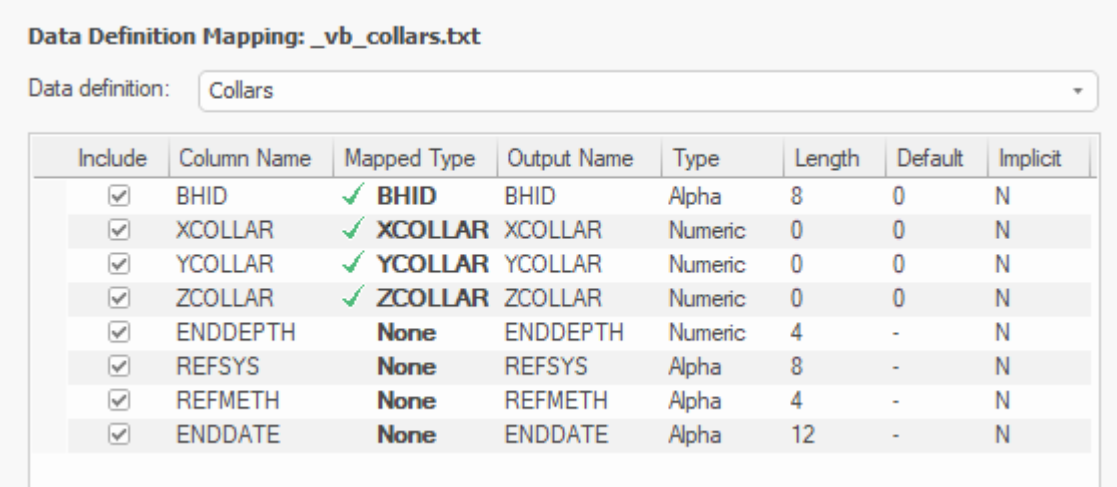
We've made major changes to the way plots are constructed with this update.

Plots are formed from a collection of plot items, ranging from 3D projections and associated sections, to clip art, text boxes and so on. You asked us to improve the usability of these tools so we've taken a step back and changed our approach to reporting. In a good way.

Plot items are now supported by their own ribbons, displayed whenever a particular plot item is selected, be that a projection, a north arrow, title box or whatever. With your help, we analysed the most commonly-used features and settings and have created a dedicated ribbon of tools for each plot item type. For example, managing the tabular contents of title box cells is now much easier thanks to handy cell managers.

The **Plots (Manage)** and **Plots (View)** ribbons have also been combined.

Text Importer



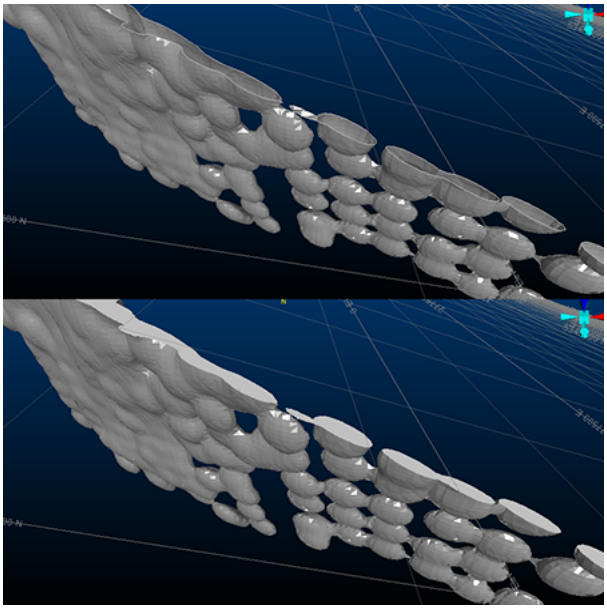
Import one or multiple text files using a new **Text Importer** screen.

Select as many files as you need to import and configure all importation options on a single screen, including automated and interactive field mapping for your selected data type and preview your file before you import.

Once you're happy with your settings (which can be set for each individual file if required), store your configuration information in a handy scenario file which can be used to consistently import data in the future and to share with others in your organization.

Filled Wireframe Intersections (Preview)

We've added a new wireframe formatting option to the Wireframe 3D Properties screen: **Fill intersection**.

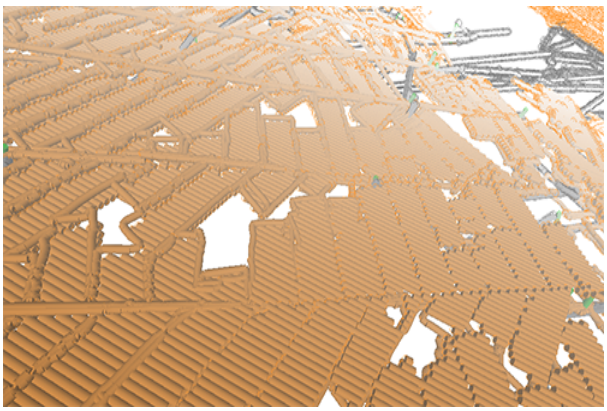


Wireframe data shown with standard clipping and filled intersection mode

Now, you can display clipped wireframes with solid intersections, emulating a 'filled' volume. This can be really useful when visualizing volumes in cross section.

> **Note**: This feature is still in development, but we thought we'd let you have a look at progress so far. There are some limitations, such as viewing intersections of multiple coincident intersection planes of different colours, but it should give you an idea of what we're aiming for.

3D Window Improvements



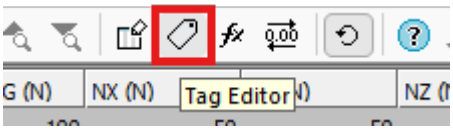
The display of large data so that it has a lower impact on system and application performance. This includes new, smart settings to control how and when 3D scene data is rendered, making sure the system only has to draw what it needs to. To

support these changes, new 3D options have been introduced to control **Environment Settings** (automated scene clipping) and a **Render on Demand** setting (on by default), added to the 3D system settings screen.

Datamine File Tags

With the introduction of the new DMX file format in this version (see above), a new facility arrives for all users; table tagging.

We intend to make use of this new feature in the future, but you can also add your own data tags and values to any .dmx file using the Table Editor, which includes a new **Tag Editor** function on its toolbar:



Add as many tags and associated values as you like. This could be useful, say, to embed the status of a model or other design files, or to provide some implicit spatial context to data (mine, area, level, for example) without requiring additional data attributes.

New Processes

- **INTEXT** – You asked for a file-based process to convert text files to Datamine files, so we created **INTEXT**. Either using the data definition specified in the incoming file, or by choosing the definition of another file, import text data using a range of options.
- **COMBTRI** – Append several wireframes to a single file.

Command & Process Improvements

- **COMBTRI** allows up to 20 wireframe files to be combined in a single operation.
- **extend-segment-virtual-intersect** can now be used on closed strings.

All Improvements

Commands & Processes

- **Case:** **Multiple Cases** Your product can now read and write the new Datamine binary format (.dmx) and will automatically convert non-default files in the project folder when a project is opened.
- **Case:** **Multiple Cases** Your product has been updated to connect to DTS and DTS InTouch. This version cannot connect to EPS.
- **Case:** **Multiple Cases** A new scenario-based **Text Importer** lets you import (single or batch) text files as a specified data type.
- **Case:** **Multiple Cases** Several improvements and fixes have been made to improve 3D window visualization.
- **Case:** **OP-3778** Studio OP now supports long field names by default.
- **Case:** **OP-3732** Studio OP has been updated to integrate with **Datamine Task Scheduler** (DTS). You cannot connect this version of OP to the legacy EPS application.
- **Case:** **OP-3499** The **Standard Targets** screen has been reorganized and now has options to more easily manage existing targets.
- **Case:** **OP-3134** The performance of loading data, auto scheduler scenarios, changing periods and applying setup changes (and other functions) has been improved.
- **Case:** **CORE-9284** If you create a project using a folder that contains files in a non-native format, they are automatically converted.
- **Case:** **CORE-9265** By popular request, the "red" quick key combination now launches reduce-points (not simplify-string) as in previous versions. Menu options have also been reinstated.
- **Case:** **CORE-9240** Plot item locations now remain static when adjust the Relative positioning option for locatable plot items.
- **Case:** **CORE-9239** You can now interactively pick the target position of a locatable plot item using a new Anchor ribbon button.
- **Case:** **CORE-9234** DMX data saved from a Studio application now embeds the creating product and version as metadata (tags).
- **Case:** **CORE-9112** Studio project startups now include a check for local project files in a non-default format, and converting them to the default format.

- **Case: CORE-9021** Your product's Mesh wireframing library has been updated to version 2.0.1.53.
- **Case: CORE-9006** You can now use the "uc" quick key combination to apply clipping in Plots sheets.
- **Case: CORE-8938** A warning is now displayed when running HOLES3D when the BHID value in the Collar and Survey files doesn't match.
- **Case: CORE-8929** Loaded data objects that have metadata tags display those tags in the Properties control bar.
- **Case: CORE-8918** Supporting plugins for PTCLD2WF and the Point Reconstruction Wizard have been updated.
- **Case: CORE-8876** You can now choose to manually or automatically adjust 3D window clipping planes using the Environment Settings screen.
- **Case: CORE-8860** The "red" quick key combination now runs the **simplify-string** command, not the legacy reduce-points command. Ribbon access has also been updated.
- **Case: CORE-8702** **query-angle** now outputs angle information in degrees, minutes and seconds.
- **Case: CORE-8697** **intersect-drillholes-wireframes** now outputs the intersection angle between drillhole and wireframe.
- **Cases: CORE-8490, CORE-8452, CORE-8357** Front & back 3D window clipping distances now computed automatically based on object's bounding box.
- **Case: CORE-8465** Context-sensitive Section and View ribbons now support projection editing and creation in the Plots window.
- **Case: CORE-8460**The **Plots (Manage)** and **Plots (View)** ribbons have been combined.
- **Case: CORE-8424** Quick filtering wireframes and block models is now much quicker.
- **CORE-8310** By default, data is now rendered in the 3D view only when required. This makes application usage with large data much quicker with more responsive controls.
- **Case: CORE-8216**An Anchor ribbon has been introduced to support locatable plot items.
- **Case: CORE-8206** Reloading and refreshing large data objects is now quicker.
- **Case: CORE-8093** Improvements have been made to the way strings and points are rendered in the 3D window, to improve performance.

- **Case: CORE-8047** Changes to the Plots ribbons will now be automatically shared with all Studio products, making forward development quicker and easier.
- **Case: CORE-8012** A new context-sensitive Text Cell ribbon has been created to modify the contents of text cells in title boxes.
- **Case: CORE-7966** You can now overwrite an existing legend instead of having to specify an unused/unique legend name.
- **Case: CORE-7946** Legend box plot item formatting can now be performed using a new Legend Box context-sensitive ribbon.
- **Case: CORE-7732** A new **Text Importer** screen lets you import multiple ASCII text files with per-file configurations and share your importation settings as a scenario.
- **Case: CORE-7694** Symbol plot item formatting can now be performed using a new Symbol context-sensitive ribbon.
- **Case: CORE-7693** Text Box formatting can now be performed using a new Text Box context-sensitive ribbon.
- **Case: CORE-7692** Title box formatting can now be performed using a new Title Box context-sensitive ribbon.
- **Case: CORE-7691** Scale bar formatting can now be performed using a new Scale Bar context-sensitive ribbon.
- **Case: CORE-7690** North arrow formatting can now be performed using a new North Arrow context-sensitive ribbon.
- **CORE-7279 extend-segment-virtual-intersect** can now be used on closed strings.
- **Case: CORE-7161** The Create Model Prototype screen now has additional support for both new and copied rotated model prototypes.
- **Case: CORE-7051 COMPDH** now lets you save residual composites to a new &RESIDUAL output file option.
- **Case: CORE-6906** When creating a ramp string, if the Distance set is less than the minimum segment length, a partial segment is added.
- **Case: CORE-2410** A new process - **INTEXT** - converts text files to Datamine files using an existing data definition and other parameters.
- **Case: CORE-231**We've added a new wireframe visualization option; **Fill intersection**.
- **Case: CORE-68** A new command - **clip-strings-to-wireframe** - lets you trim string data in relation to a wireframe surface or volume.

> **Note**: **ESTIMA** and **ANISOANG** processes are no longer available in this product.

User Experience

- **Case: OP-3764** The MineScape block model importer utility has been added to the Data ribbon.
- **Case: OP-3740** Mineable Reserves Optimizer has been removed from the Reserves ribbon.
- **Case: OP-3688**When creating surface roads, references to ‘Batter’ have been replaced with “Bench” and references to "Batter Angle" with "Face Angle".
- **Case: OP-3638** The Block Definition Method task now uses visual themes with better support for resizing.
- **Case: OP-3589** The Surface Topo. task now uses visual themes with better support for resizing.
- **Case: OP-3585** The Manage Phases task now uses visual themes with better support for resizing.
- **Case: OP-3581** The Timeframe and Auto Mining Blocks tasks have been merged into a single multi-tab task.
- **Case: OP-3578**The Spatial Dependencies managed reserves task has been refactored to use a more scalable framework.
- **Case: OP-3581** The Auto Mining Blocks task now uses visual themes with better support for resizing.
- **Case: OP-3562** The Manage Pits task now uses visual themes with better support for resizing.
- **Case: CORE-9108** The Quick Filters screen now inherits the selected look and feel option.
- **Case: CORE-9086** The INTEXT text import process has been added to the Data ribbon
- **Case: CORE-9085** Combine Wireframes (COMBTRI process) has been added to the Wireframe ribbon.
- **Case: CORE-9084** Clip String to Wireframe has been added to the Digitize ribbon.
- **Case: CORE-8973** The Project Files control bar now differentiates .dm and .dmx formats by distinct icons.

- **Case: CORE-8937** The Project Files and Project Data control bars now display up to 30 macros in a .mac file.
- **Case: CORE-8935** A new splash screen has been implemented.
- **Case: CORE-8906** Large Data Mode has been relabeled "Keep data in front of the camera" to make it clearer what it does.
- **Case: CORE-8851** The Table Editor now supports visual themes.
- **Case: CORE-8765** The **Georeference Objects** screen now inherits current look and feel settings.
- **Case: CORE-8742** Images and colour scheme have been updated for the New Project Wizard.
- **Case: CORE-8488** Icons for the visualization window tabs and control bars have been updated.
- **Case: CORE-5599** Managed task windows, such as implicit modelling and lithology assignment tasks, now persist their docked UI status between project sessions.

Auto Scheduler

- **Case: SUMSCH-1119** Auto Scheduler can now process files in the new .dmx format.

Utilities & Supporting Services

- **Case: CORE-8915** ALS Coreviewer options have been removed from this product. Datamine no longer resells ALS Coreviewer.
- **Case: CORE-8759** End User License Agreement references have been replaced with Terms and Conditions.
- **Case: CORE-8747** You can now associate meta data with .dmx files using the Table Editor. This facility is not available for legacy .dm files.
- **Case: CORE-8585** You can now import up to 256 fields via the Surpac driver, and you are alerted if this limit is exceeded
- **Case: CORE-8564** The obsolete command erase-wireframe-surface has been removed from the ribbon system.
- **Case: CORE-8439** A standalone utility has been created to convert .dm to .dmx files.

- **Case:** CORE-8329 A new method more accurately calculates the volume of Prismatic models, as imported by the MineScape Importer utility (minescape-to-blockmodel command).
- **Case:** CORE-6986 .xyz files can now be imported when importing Text files to the project.

Documentation & eLearning

- **Case:** CORE-9348 EXTRA help files, including the examples topic, have been updated for clarity and consistent terminology.

Scripting & Automation

- **Multiple** Scripted access to Datamine files has been extended to manage both legacy and new DMX file processes.

Defect Fixes

- **Case:** OP-3773 Auto-Dump design Lift Overrides are now changing lifts with boundary strings as expected.
- **Case:** OP-3738 The Excel export function in the Reconciliation tool now works as expected.
- **Case:** OP-3735 3D window symbols used to identify dump and stockpile sequencing landmarks now appear correctly.
- **Case:** OP-3734 Truncated screen text on the Evaluate Mining Block screen has been corrected.
- **Case:** OP-3365 An issue causing the Edit Schedule screen to report an incorrect non-loading activity rate value has been resolved.
- **Case:** OP-3210 Auto Scheduler now correctly honours the Dump Volume while running with Dump Modelling option.
- **Case:** OP-3177 Scheduler settings browsers now open the expected folder location by default.
- **Case:** SUMSCH-1123 An issue causing the scheduler not to return a partial solution where expected has been resolved.
- CORE-9000 Enabling and disabling values in Assign and Group Lithology tasks now shows and hides drillhole intervals as expected.
- CORE-8947 1-letter macro file names now appear in the Project Files control bar as expected.
- CORE-8947 SELWF now produces expected results when there are spaces in the field name values of ZONE.
- CORE-8867 An issue preventing the successful installation of License Services on some Windows Server platforms has been resolved.
- CORE-8848 The double-sided 3D wireframe rendering setting is now correctly saved to the project.
- CORE-8823 .var files now reference the correct stack version.
- CORE-8820 A regression of field addition in EXTRA when parsing numbers with scientific notation has been resolved.
- CORE-8811 An issue caused by swapping Snap Mode settings has been resolved.
- **Case:** CORE-8801 An intermittent issue affecting file lookups when running macros has been resolved.
- CORE-8784 Wireframes generated by SWATHPLT now include consistently oriented triangles.

- **CORE-8783** Making a plot item locatable no longer unexpectedly changes that plot item's position.
- **CORE-8757** An issue causing **PPQQPLOT** to fail with a large input file has been resolved.
- **CORE-8754** An issue causing system shutdown after reordering georefencing table values (**georeference-objects**), has been resolved.
- **CORE-8675** An issue causing **converge-segments** to display unexpected results after undoing the operation has been resolved.
- **CORE-8670** The BOOLEAN process no longer fails when the two inputs (in the same run) have a column with the same name but a different data type.
- **CORE-8610** 3D object bounding boxes, used for 3D view configuration are now set correctly for all string object entities.
- **CORE-8583** An issue causing an orthographic 3D view corruption where the front clipping plane distance is very large, has been resolved.
- **CORE-8530** An issue causing system instability, when clipping in the Plots window using a quick key, has been resolved.
- **CORE-8523** An issue attempting to print screen contents when Info Mode is active has been resolved.
- **CORE-8479** In Plots, setting a primary clipping width to a value larger than the extent of the section no longer causes the midpoint to be moved outside of the section extents.
- **CORE-8475** An issue causing unexpected behaviour when snapping at high zoom levels has been resolved.
- **CORE-8087** An issue that could cause a progressive memory leak when reloading a data object has been resolved.
- **CORE-7713** An issue preventing the automatic generation of legends by data type has been resolved.
- **CORE-6591** A repetitive warning message in Table Editor relating to undo operation performance can now be disabled as expected.
- **CORE-6002** An issue preventing the update of associated screens after renaming 3D overlays has been resolved.
- **CORE-3477** You can now generate a 2 point vertical plane by selecting 2 vertically-aligned points.

DATAMINE

STUDIO OP

Datamine enables efficient and sustainable mining through the application of world-leading technology and services.

Read the Docs

docs.dataminesoftware.com

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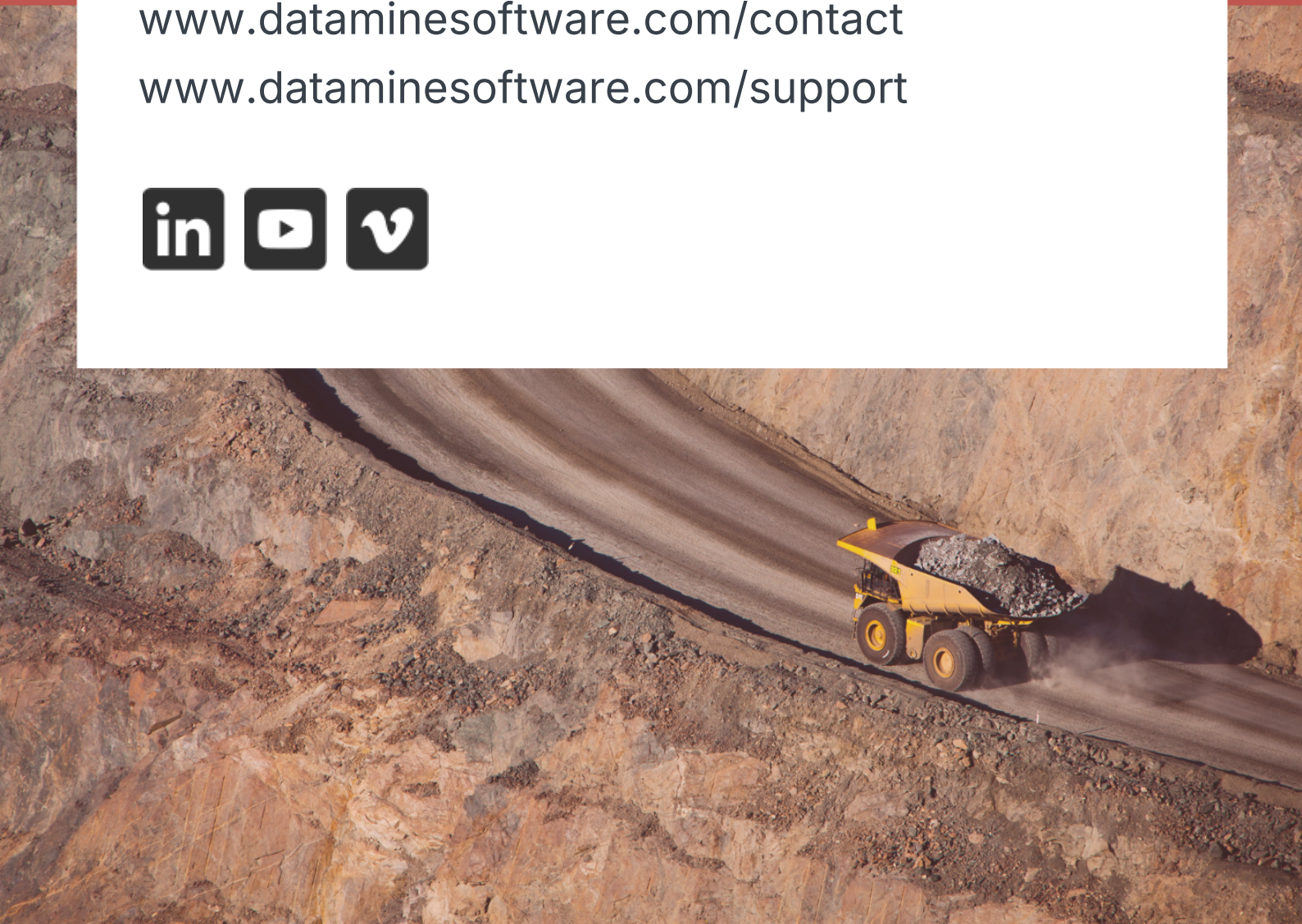
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